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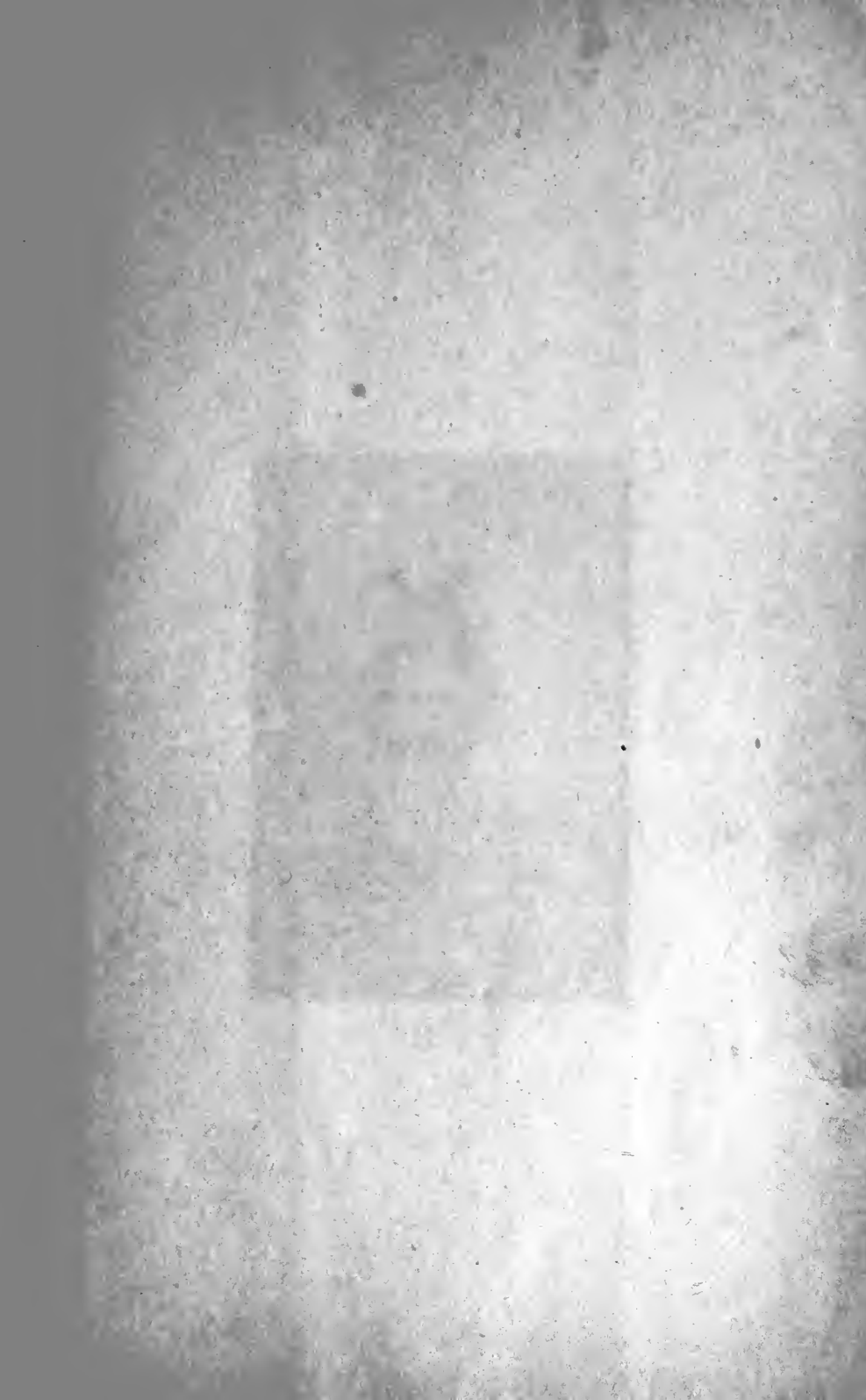
T41

Thomas, Cyrus.

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the differences between au-
thorities in reference to the
Maya calendar. and certain
dates.



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(From the American Naturalist, October, 1881.)

AN ATTEMPT TO RECONCILE THE DIFFERENCES
BETWEEN AUTHORITIES IN REFERENCE TO
THE MAYA CALENDAR AND CERTAIN
DATES; ALSO TO DETERMINE
THE AGE OF THE MANU-
SCRIPT TROANO.

BY PROFESSOR CYRUS THOMAS.

IN my former paper (AMERICAN NATURALIST for August, 1881), I reached the following conclusions:

First.—That the Ahau or Katun consisted of twenty-four years.

Second.—That but twenty of these years were usually counted.

Third.—That the grand cycle consisted of 312 years.

Fourth.—That the cycles began with the year 1 Cauac, or in other words that the Cauac column in the table of years should stand at the left.

Two important points yet remain to be determined before we are in a condition to compare Maya dates with those of the Christian era:

First.—The position of the different Katunes according to their numbers in the grand cycle.

Second.—Some one year of the Christian era that corresponds with some one year of a given Katun, or, in other words, to determine one or more contemporaneous dates of the two systems.

Before entering upon the discussion of the topic mentioned in the title to this paper, I wish to present the following additional proof that the year series commenced with a Cauac year, as this is a point which must be settled before we can feel certain in regard to any comparison made between dates of the two systems.

In the manuscript discovered by Perez and translated into English by Stephens, we find the following statement:


"In the 13th Ahau, Chief Ajpula died. Six years were wanting to complete the 13th Ahau. This year was counted towards the east of the wheel and began on the 4th Kan. Ajpula died on the 18th day of the month Zip, on 9 Ymix; and that it may be known in numbers, it was the year 1536, sixty years after the demolition of the fortress."

As the years could only begin with one of the four days,

(Pila
1881)

Cauac, Kan, Muluc, Ix, which followed each other in the order here given, it is evident this Ahau must have ended on 10 Ix, and must have commenced with 13 Cauac, if we count 24 years to the Ahau. As I have shown in the previous paper that this period consisted of 24 years, I shall assume that point as settled, and will give, opposite, a table of years sufficiently extended to cover one entire grand cycle, also the closing cycle of the preceding, and the first of the following grand cycles, showing the position of the Ahaues.

As the grand cycle includes just 13 Katunes—312 years—I take for granted that the first year of this period coincides with the first year of a Katun, and consequently the close of the former coincides with the close of a Katun. By dividing the former into periods of twenty-four years, we will obtain the positions of the Katunes, and our next step will be to find their respective numbers.

The commencement and ending of the great cycle are marked thus ; the divisions between the Ahaues with single transverse solid black lines. According to the quotation just made from the Perez manuscript, the 13th Ahau was one that required six years to complete it after the year 4 Kan. This can only be found in the one I have numbered XIII (the Roman numerals indicate the numbers of the Ahaues or Katunes). If we take for granted that the periods were numbered thus, 13, 11, 9, 7, 5, 3, 1, 12, 10, 8, 6, 4, 2—a point in reference to which all the authorities agree—having determined the number of one in the grand cycle, it is an easy matter to number the rest.

I call special attention to the fact that the one numbered XIII, found as above stated, begins with the year 13 Cauac; also that the first years of the others correspond with numbers and order as given in the above series. The selection of XIII as the one with which to begin the series, was, as Dr. Valentini has given good reasons for believing, an arbitrary proceeding on the part of the Maya priests.

This numbering, as any one can see, agrees precisely with the position and numbers of the periods marked in table XI of my previous article (p. 639). The position and numbers of these periods, as I have given them here (Table XII) agree exactly with the dates in the Manuscript Troano and the Perez manuscript.

As 4 Kan of the 13th Ahau coincides with the year 1536 of

TABLE XII.

Cauc.	Kan.	Muluc	Ix.
1	2VII3	4	
5	6	7	8
9	10	11	12
13	1	2	3
4	5	6	7
8	9	10	11
12	13	1	1326 2)
3)	4	5	6
1327	7	8	9
10	11	12	13
1	2	3	4
5	6	7	8
9	10	11	12
13	1	2	3
4	5	6	7
8	9	10	11
12	13	1	2
3	4	5	6
7	8	9	10
11	12	13	1
2	3	4	5
6	7	8	9
10	11	12	13
1	2	3	4
5	6	7	8
9	10	11	12
13	1	2	3
4	5	6	7
8	9	10	11
12	13	1	2
3	4	5	6
7	8	9	10
11	12	13	1
2	3	4	5
6	7	8	9
10	11	12	13
1	2	3	4
5	6	7	8
9	10	11	12
13	1	2	3
4	5	6	7
8	9	10	11
12	13	1	2
3	4	5	6
7	8	9	10
11	12	13	1
2	3	4	5
6	7	8	9
10	11	12	13
1	2	3	4
5	6	7	8
9	10	11	12
13	1	2	3
4	5	6	7
8	9	10	11
12	13	1	2
3	4	5	6
7	8	9	10
11	12	13	1
2	3	4	5
6	7	8	9
10	11	12	13
1	2	3	4
5	6	7	8
9	10	11	12
13	1	2	3
4	5	6	7
8	9	10	11
12	13	1	2
3	4	5	6
7	8	9	10
11	12	13	1
2	3	4	5
6	7	8	9
10	11	12	13

the Christian era, we can from this easily change the years of one system into those of the other. For convenience, I have marked on the table the year of our era corresponding with the first and last of each Ahau.¹

Now let us test this arrangement by the two or three additional dates found on record, and which the authorities have failed to make agree with any explanation of the calendar heretofore given.

Bishop Landa ("Relacion de Cosas," § 41) states that, "The Indians say, for example, that the Spaniards arrived in the City of Merida the year of the nativity of our Lord and Master 1541, which was precisely the first year of 11 Ahau."

As the Indians could have given dates only by their system and by the number of years, it follows that the Bishop connected the year 1541 of the one system with that of the first of the 11th Ahau by his own calculation.

As he understood the twenty usually *counted years* to form a complete Ahau, and supposed one of these to follow another without any intervening years, he would take 9 Muluc of the 13th Ahau—which was 1541 according to my table—as the first of the 11th Ahau (13 Muluc), according to his understanding.

In order to make this plain I have surrounded the usually counted years of the 13th and 11th Ahaues with light waved lines. I have marked the two years he has confounded (9 and 13) with a star; the year 4 Kan of the 13th Ahau, which corresponds with our year 1536, is surrounded by a dark circle.

We know from his express statement that he understood twenty years to constitute one of these periods, a fact which will probably explain the discrepancy in relation to another date which he mentions.

While writing his work in 1566, he remarks, "According to the computation of the Indians, it is now 120 years since Mayapan was abandoned." As this period must have been understood by him to include six Ahaues, the number as corrected would be 144 years, substituting this number and counting back we obtain the year 1422 or 1423—the last year of the 10th Ahau, or first of the 8th, as the one in which the destruction occurred.

Cogulludo (as stated by Dr. Valentini) places this event "about

¹No notice is taken here of the fractional differences between the years of the two systems.

the year 1420 A. D." The Perez manuscript locates it in the 8th¹ Ahau—the one following the 10th—but without giving the year. As my calculation places it in the last year of the 10th, or first of the 8th, the agreement is perhaps as close as could be expected.

Perez states that the year 1392 of our era was the Maya year 7 Cauac, "according to all sources of information, confirmed by the testimony of Don Cosme de Burgos, one of the conquerors and a writer (but whose observations have been lost."—(Bancroft, II, 763). The correctness of this statement has been very seriously questioned because of the apparent impossibility of making it agree with the other dates. In the first place Perez started wrong by taking for granted that 7 Cauac was the *first year* of an Ahau, a supposition by no means necessary. In the second place it is more than probable he arrived at the date 1392 by calculation from the data he had before him, and not from the fact that the two dates were connected by the authority quoted from. It is certain that he or his authority must have reduced the years of one system to those of the other to have arrived at this date.

As he gives, in his calculations, the year 1493 as that on which Ajpula died, instead of 1536, as stated by his manuscript, thus antedating it by forty-three years, it is probable that this error runs through all his calculated dates. Now let us make this correction on our table by counting from the year 1392, as found there, and see what year it brings us to.

Examining the table, we see that the 12th Ahau closed with 1398, and that 1392, according to my arrangement, was the year 3 Kan of this Ahau. Counting from this forward through the six remaining years of this Ahau, the 24 of the 10th to the 13th year of the 8th Ahau (43 in all), we reach 7 Cauac; precisely the date required by his authorities. It also falls in the 8th Ahau, a fact which also appears to be demanded by his data; but it is the year 1435 of our era and not 1392. Is it not more than probable that this was the year in which Mayalpan was destroyed? It is a little strange that Perez should have made the mistake of saying that Ahau No. 2, in which his manuscript places the first appearance of the Spaniards on the coast of Yucatan, *ended* with the year 1488, and that Dr. Valentini should have overlooked this error. According to my scheme, this Ahau began with 1495 and ended with 1518, covering the correct date.

Brasseur (Relac. des cos. 52 note) says erroneously, "6th."

We see from this that when the Maya calendar is properly explained, and the manifest errors of the various authorities corrected, the dates can be reconciled, and in fact furnish strong evidence of the correctness of what I have advanced in reference to the proper position and numbers of the Ahaues in the grand cycle.

The theory advanced by Perez that the Ahaues were numbered from the second day of the Cauac years, is simply a supposition based upon the name "Ahau," and the fact that the numbers of these periods, as usually given, can be found in this way, and is really the basis of all his calculations.

But we can find the same numbers, and in the order given, without resorting to this theory, as will be seen by reference to the table. Dividing the series into periods of 24 years will necessarily give these numbers as the first years, no matter where we commence the division. As will be seen by reference to the table, the Ahau in which the year 1536 falls, and which the Perez manuscript states was the 13th, commences with the year 13 Cauac, the next with 11 Cauac, and so on, precisely as given by all authorities. The only foundation, therefore, for the theory advanced by Perez, was the name "Ahau," which was doubtless applied to these periods on account of their importance in calculations of time and in giving dates.

Is there anything in the manuscript itself indicating the date at which it, or the original from which the one discovered was copied, was written?

The period embraced by the four plates xx-xxiii, which can be located in the series of years with reasonable if not absolute certainty, is evidently peculiar and not a part of the Maya calendar system. If, as I have given strong reasons for believing, it marks the close of one great cycle and the commencement of another, it will be located as shown by the heavy waved line on the table.

Why was this peculiar period given? My answer is that it probably marks the time during which the author lived, and hence was written during the latter half of the fourteenth century.

That exactly the same combinations may be found by going back one grand cycle, or 312 years, is true, but the internal as well as the external evidence, which I cannot undertake to discuss here, will not, in my opinion, allow us to carry it back to such a

remote period as the commencement of the eleventh century; that we cannot bring it down to the middle of the seventeenth century (the only possible subsequent date on the above supposition) must be admitted.

That the peculiar period embraced in plates xx-xxiii may be located where any two cycles meet is certainly true, so far as the years are concerned, but judging by the symbols and extent of the period, certain signs which seem to indicate the 3d and 1st Ahau, and from the fact that the commencement of no other cycle, except that with which the grand cycle begins, coincides with the commencement of an Ahau, I am satisfied it marks the union of two of the greatest Maya periods.¹

¹ *Errata in the First Article.*—In second line from the bottom of page 631, after the words "17th day of the 2d" add "or 15th," so as to read "17th day of the 2d or 15th month." In third line from the top of page 636, for "governing" read "covering." In second line from the top of page 639, for "each period" read "each two periods."





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